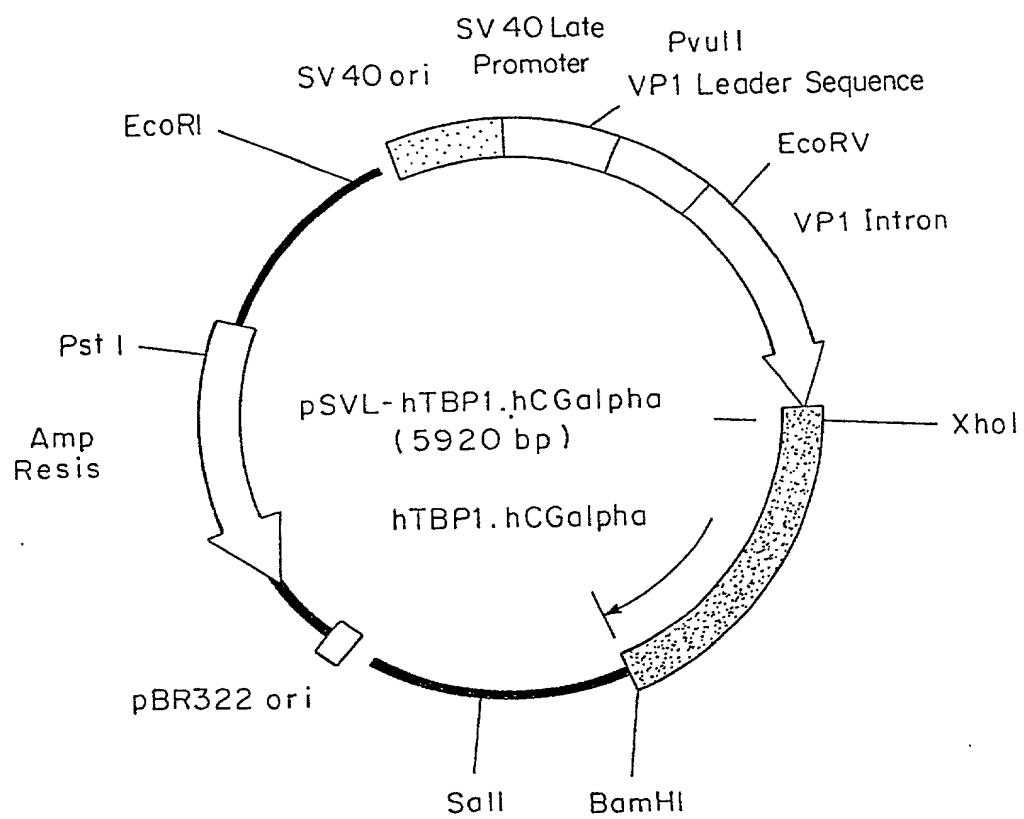


FIG. 1a(1)



F/G. 10(2)

Xho I hGH Signal Sequence
 TCGAG ATG GCT ACA G
 Met Ala Thr

hGH Intron

XGAATGTGAGGATTCGCCATTGTAAGCCCAAGTATTGGCCAAATCTCAGAAAGCTCCTGGTCCCCTGGGAGGGATGGAGAGAAGACAGCTCCTGGGAGAGTGGCTGCCTCTGCTGCTTC

GGGCTCCCTCTGTGGCCCTCTGGTTCTCCCCAGGGC TCC CCG GCT TGC CTC GGC CTG CCC TGC CTC GGC CTG CCC TGC CTC GGC CTG CCC TGG CTT:
 ▶ Ser Arg Thr Ser Leu Leu Ala Phe Gly Leu Cys Leu Pro Trp Leu
 +20 Asp of Processed TBPI
 CAA GAG GGC AGT GGC GAT AGT GTC TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT TCG ATT TGC TGT ACC AAG TGC CAC AAA AAA
 ▶ Gln Glu Gly Ser Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Thr Lys Cys His Lys Gly
 ACC TAC TTG TAC AAT GAC TGT CCA GGC CCG GGG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC TTC ACC GCT TCA GAA AAC CAC CTC
 ▶ Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp Cys Arg Glu Cys Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
 AGA CAC TGC CTC AGC TCC TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TGT TGC ACA GTG GAC CGG GAC ACC GTG TGT GGC TGC
 ▶ Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys
 AGG AAG AAC CAG TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TCT AAC GGG ACC GTG CAC CTC TCC TGT
 ▶ Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Ser Leu Cys Ser Asn Cys Ser Leu Asn Gly Thr Val His Leu Ser Cys
 CAG GAG AAA CAG AAC ACC GTG TGC ACC TGC CAT GCA GGT TTC TTT CTA AGA GAA AAC GAG TGT GTC TCC TGT GCC GGT GCT GCC CCA GGT
 ▶ Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ala Gly Ala Ala Pro Gly
 +7 Cys of hCG alpha
 TGC CCA GAA TGC ACG CTA CAG GAA AAC CCA TTC TCC CAG CCG GGT GCC CCA ATA CTT CAG TGC ATG GGC TGC TTC TCT AGA GCA TAT
 ▶ Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys Phe Ser Arg Ala Tyr
 CCC ACT CCA CTA AGG TCC AAG AAG ACG ATG TTG GTC CMA AAG AAC GTC ACT TCA GAG TGC TGT GTC ACT TCA TAT AAC AGG GTC
 ▶ Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn Arg Val
 ACA GTA ATG GGG GGT TTC AAA GAG AAC CAC ACG GCG TGC CAC TGC AGT ACT TGT TAT TAT CAC AAA TCT TAA G
 ▶ Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser ... | Bam HI

FIG. 1b(1)

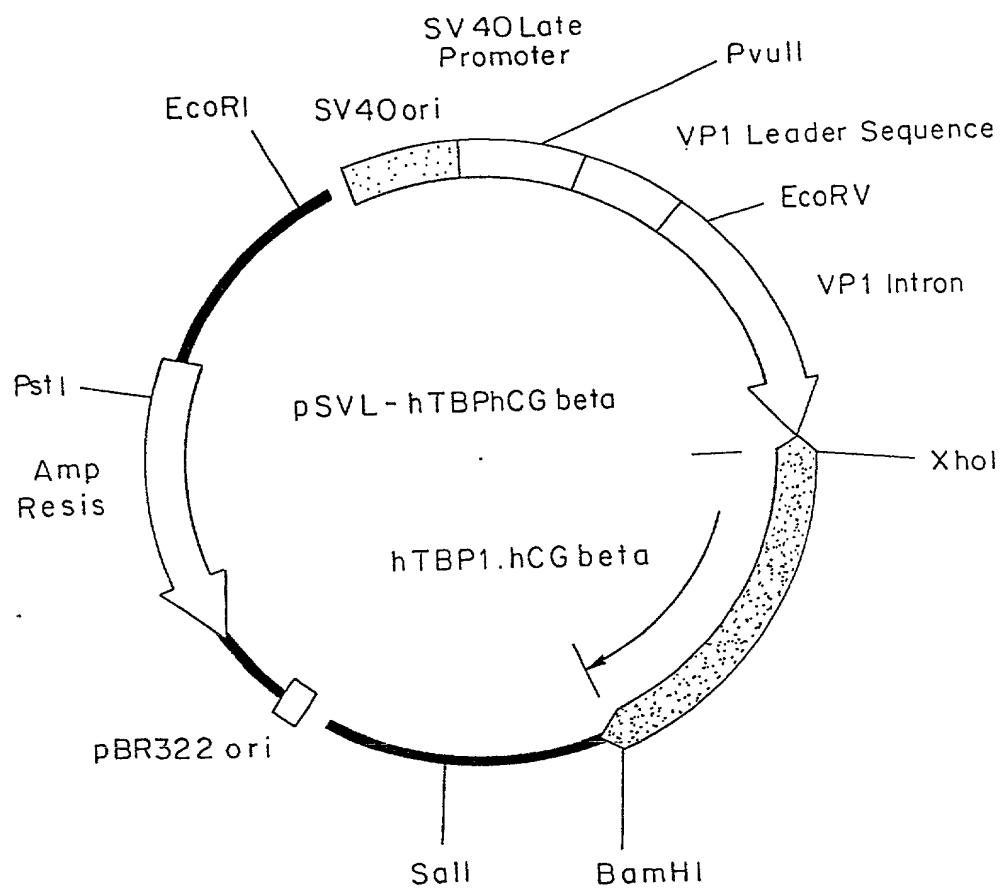


FIG. 1b(2)

hGH Signal Sequence

hGH Intron

Xhol
 ctgcgat ATG GCT ACA ...
 ▶ Met Ala Thr
 GCTCTGTGATGTGAGTATGCCATGTTAAGCCAGATTGGCCATTCAGAAAGCTCCTGGCTGAC
 CTCCTGCTCTCCGGTCCCTCTGTGCCCTCTGGTCTCCCCAGCC TCC CGG ACG TCC CTC CTG CTC TGC CTC TGT CTC
 Pro Trp Leu Glu Gly Ser Ala ▶ Ser Arg Thr Ser Val Cys Pro Gin Gly Lys Tyr Ile His Pro Gln Asn Ser Ile Cys Thr
 +20 Asp of Processed TBPI
 CCC TGG CTT CAA GAG GGC GAT AGT GNG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA AAT AAT TCG ATT TGC TGT ACC
 Pro Trp Leu Glu Gly Ser Ala ▶ Asp Ser Val Cys Pro Gin Gly Lys Tyr Ile His Pro Gln Asn Ser Ile Cys Thr
 AAG TGC CAC AAA GGA ACC TAC TTG TAC ATT GAC TGT CCA GGC CCG GAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC TTC ACC
 Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Cys Arg Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr
 GCT TCA GAA AAC CAC CTC AGA CAC TGC TCC AAA TGC CGA AAG GAA ATG GGT CAG GTG GAG ATC TCT TGT TGC ACA GTG GAC
 Ala Ser Glu Asn His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp
 CGG GAC ACC GTG TGT GGC TGC AGG AAC CAG TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TTC AAT TGC AGC CTC TGC CTC
 Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Glu Asn Tyr Trp Ser Glu Asn Ile Phe Gln Cys Ser Leu Cys Leu
 NAT GGG ACC GTG CAC CTC TCC TGC CAG GAG AAA CAG AAC ACC GTG TGC ACC TGC CAT GCA GGT TTC TTT CTA AGA GAA ATT GAG TGT GTC
 Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Glu Asn Thr Val Cys Thr Cys His Ala Gly Phe Leu Arg Glu Asn Glu Cys Val
 Linker ▶ +7Pio of hCGbeta
 TCC TGT GCT GGT CCA CGG TGC CGC CCC ATC AAT GCC ACC CTG GCT GTC TAC TCC TAC GGC TGC CCC GTG TGC ATC ACC GTC
 Ser Cys Ala Gly Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys' Ile Thr Val
 AAC ACC AAC ATC TGT GCC GGC TAC CCC ACC ATG ACC CGC GTG CTG CAG GGG GTC CTC TAC GCC GTG GCT CTC AGC TGT CAA
 Asn Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Val Val Val Cys Asn Tyr
 CGC GAT GTG CGC TTC GAG TCC ATC CGG CTC CCT GGC TGC CCG CGC GGC GTG AAC CCC GTC TCC TAC GCC GTG GCT CTC AGC TGT CAA
 Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln
 TGT GCA CTC TGC CGC CGC AGC ACC ACT GAC TGC GGG GGT CCC AAG GAC CAC CCC TTG ACC TGT GAT GAC CCC CGC TTC CAG GAC TCC TGT
 Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp Pro Arg Phe Gln Asp Ser Ser Cys Gln
 TCC TCA AAG GCC CCT CCC CCC AGC CTT CCA AGC CCA TCC CGA CTC CCG G3G CCC TCG GAC ACC CCG ATC CTC CCA CAA TAA
 Ser Ser Lys Ala Pro Pro Ser Leu Pro Ser Pro Ser Arg Ser Asp Thr Pro Gly Pro Ser Arg Leu Pro Gln Asp Ser Ser Cys Gln ***
 Bam III

FIG. 2a(1)

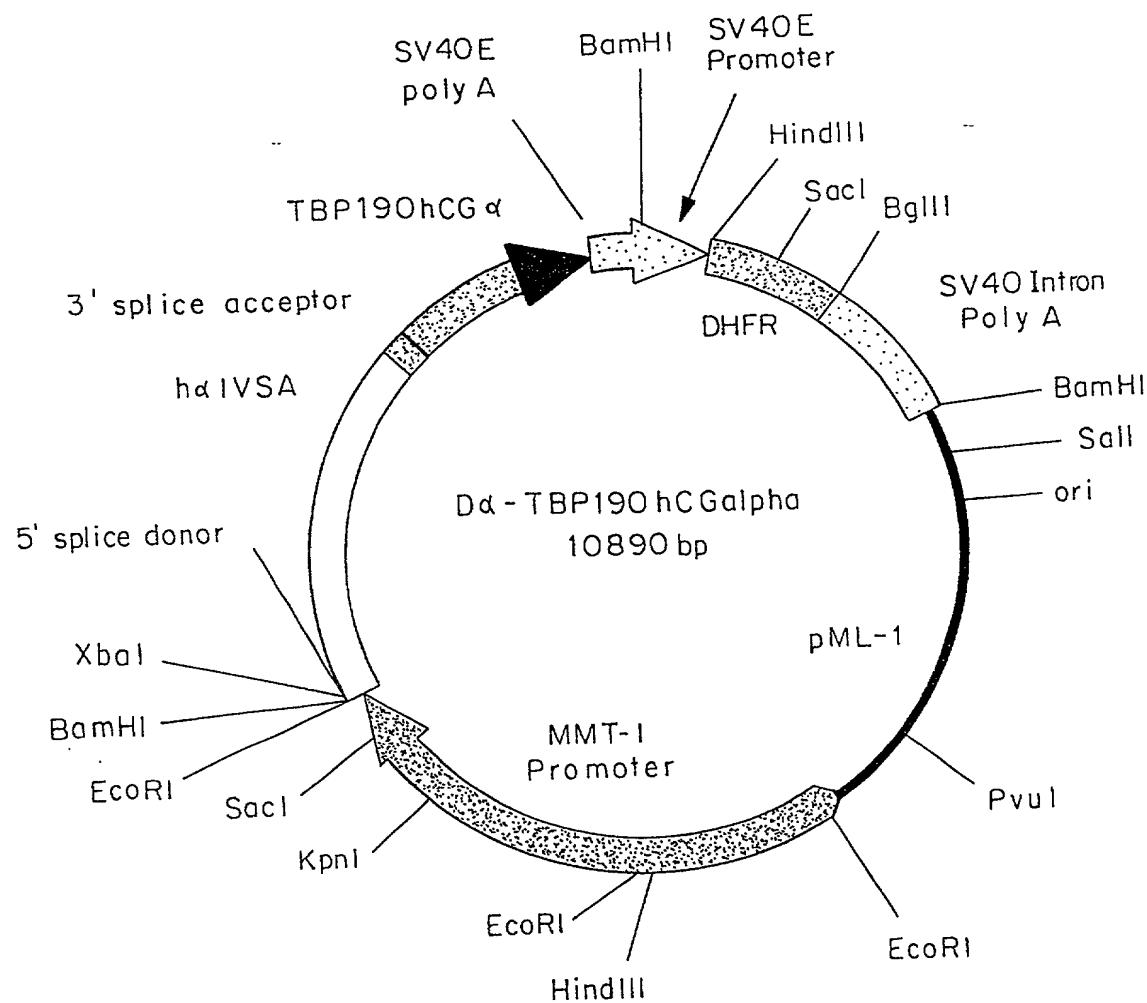
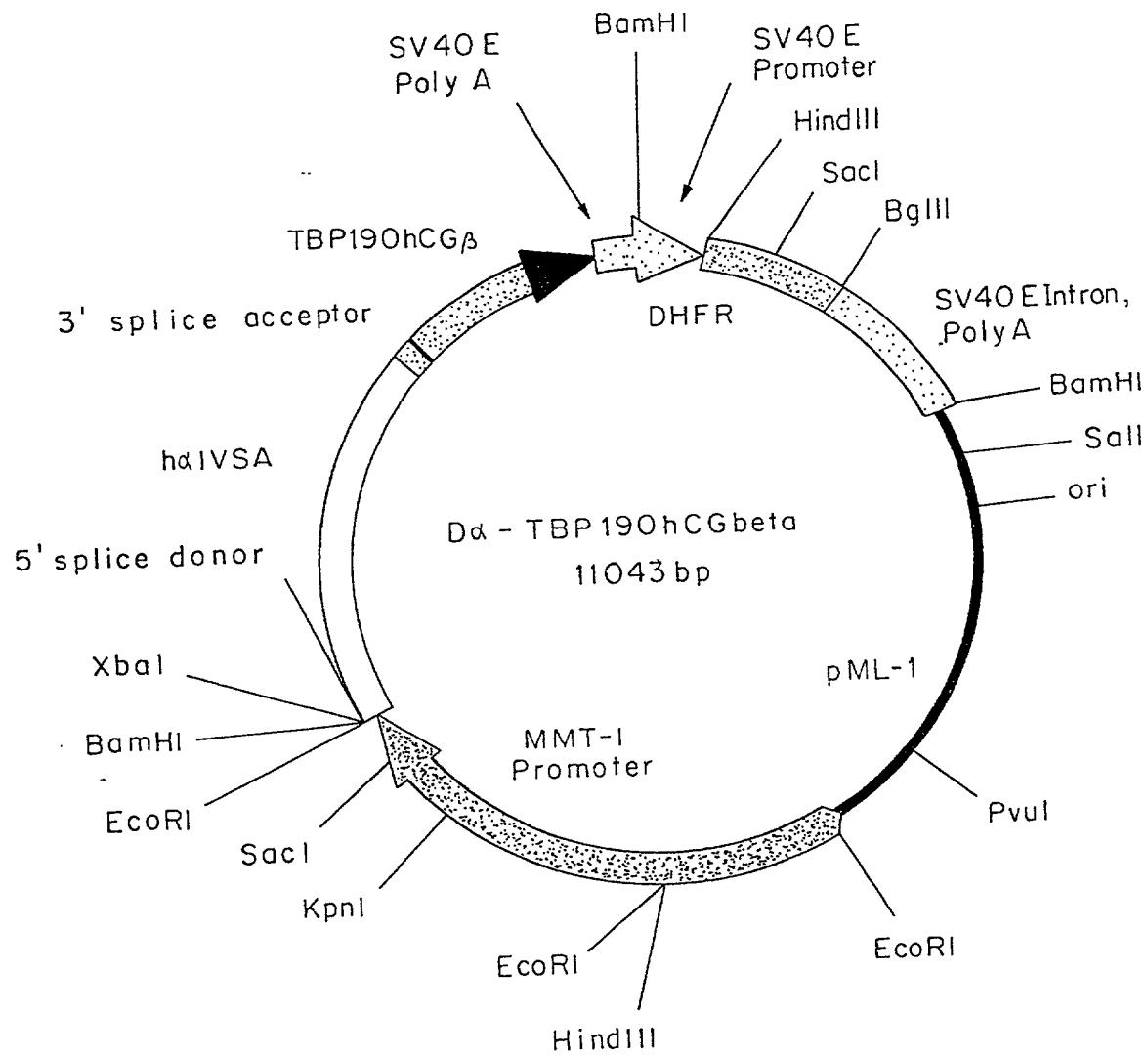


FIG. 2a(2)

XbaI	TCGAG	ATG	GCT	ACA	G	Signal Sequence
► Met	Ala	Thr				ETAAAGGCCCCCTAN

FIG. 2b(1)



F/G. 2b(2)

XbaI hGH Signal Sequence hGH Intron

CTCGAGG ATG GCT ACA G GTCAGGCCCTAAATCCCTTGGGCAATGTCCTGAGGGAGAAGGAGCCTGTAGATGGACGGGACTAACCTCAGGTTGGG

► Met Ala Thr

GCCTCTGATGAGTATGCCATGTAAGCCCAGATTGGCAGATTGGCCTCTCTGGTTCTCCCCAGG C TCC CGG ACG TCC CTG GCT TTT GGC CTG CTC

► Ser Arg Thr Ser Leu Leu Ala Phe Leu Cys Leu

+20 Asp of Processed TBPI

CCC TGG CTT CAA GAG GGC AGT GCC GAT AGT GTG TGT CCC CAA GGA AAA TAT ATC CAC CCT CAA ATT AAT TCG ATT TGC TGT ACC

► Pro Trp Leu Gln Glu Gly Ser Ala Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Ser Ile Cys Cys Thr

AAG TGC CAC AAA GGA ACC TAC TTG TAC ATT GAC TGT CCA GGC CCG CCG CAG GAT ACG GAC TGC AGG GAG TGT GAG AGC GGC TCC TTC ACC

► Lys Cys His Lys Gly Thr Tyr Ile Tyr Asn Asp Cys Pro Gly Pro Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr

GCT TCA GAA AAC AAC CAC CTC AGA CAC TGC CTC AGC TGC TCC AAA TGC CGA AAC GAA ATG GGT CAG GTG GAG ATC TCT TCT TGC ACA GTG GAC

► Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp

CGG GAC ACC GTC TGT GGC TGC ACC TAC CGG CAT TAT TGG AGT GAA AAC CTT TTC CAG TGC TGC AGC CTT AAT TGC AGC CTC TGC CTC

► Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Ser Leu Cys Leu

AAT GGG ACC GTG CAC CTC TCC TGC CAG GAG AAA CAG AAC ACC GTC ACC TGC CAT GCA GGT TTC TTT CTA AGA GAA AAC GAG TGT GTC

► Asn Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Leu Arg Glu Asn Glu Cys Val

TCC TGT AGT AAC TGT AAG AAA AGC CTG GAG TGC ACG AAG TTG TGC CTA CCC CAG ATT GAG AAT GTT AAG GGC ACT GAG GAC TCA GGC ACC

► Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Glu Thr Glu Asp Ser Gly Thr

+7 Pro of beta

Linker

ACA GCT GGT GCT GGT CCA CGG TGC CGC CCC ATC AAT GCC ACC CTG GCT GTG GAG AAG GAG GGC TGC CCC GTC GTC ATC ACC GTC AAC

► Thr Ala Gly Ala Gly Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn

GAT GRG CGC TTC GAG TCC ATC CGG CTC CCR GGC TGC CGG GTC AAC CCC GTC CTG CAG GGG GTC CTG CCG GCC CTG CCT CAG GTC AAC TAC TAC CGC

► Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gln Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Pro Gln Val Cys Asn Tyr Arg

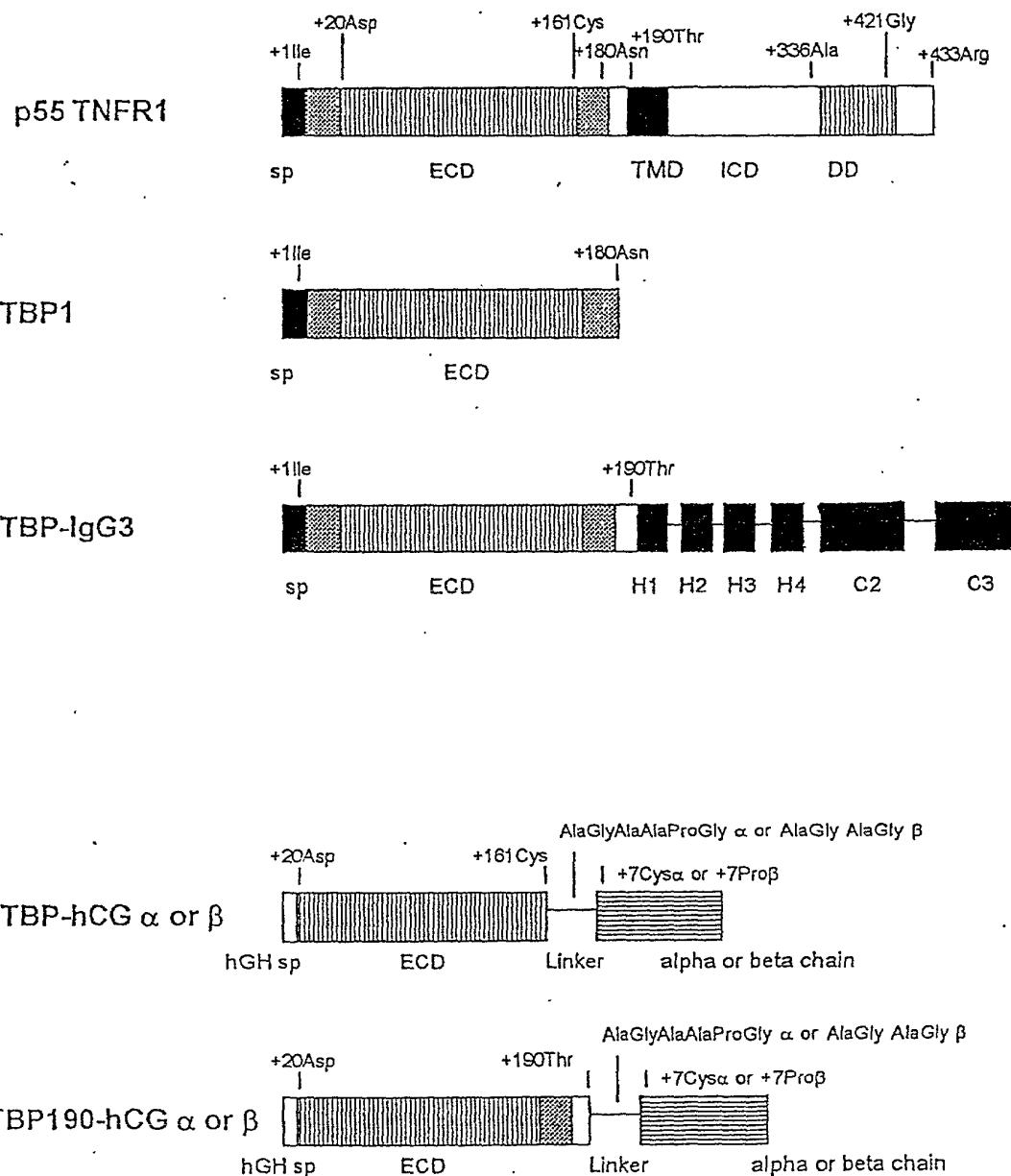
GCA CTC TGC CGC AGC ACC ACT GAC TGC GGG GGT CCC AAG GAC CAC CCC TTG ACC TGT GAT GAC CCC CGC TTC CAG GAC TCC TCT TCC

► Ala Leu Cys Lys Arg Ser Thr Thr Asp Cys Gly Pro Lys Asp His Pro Leu Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser

TCA AAG GCC CCT CCC CCC AGC CTT CCA AGC CGA CTC CGG CCC TCG GAC ACC CCG ATC CTC CCA CAA TAA GGATCCCTCGAG

► Ser Lys Ala Pro Pro Pro Ser Ser Leu Pro Ser Pro Ser Arg Leu Pro Gln Pro Ser Asp Thr Pro Ile Leu Pro Gln *** BamH1 XbaI

FIG. 3
p55 TNFR1, TBP1 and TBP1 FUSION CONSTRUCTS



F/G. 4

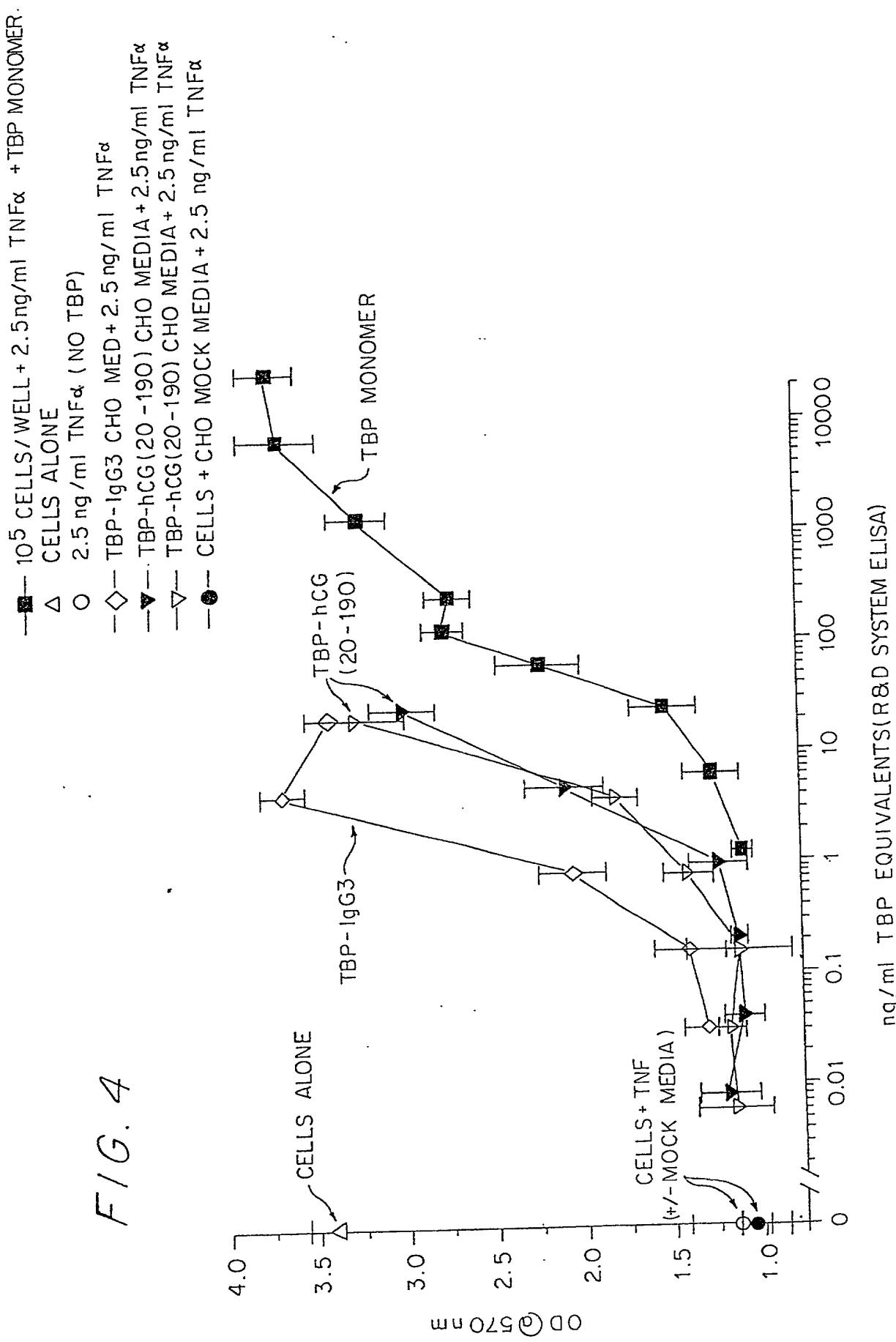


FIG. 5

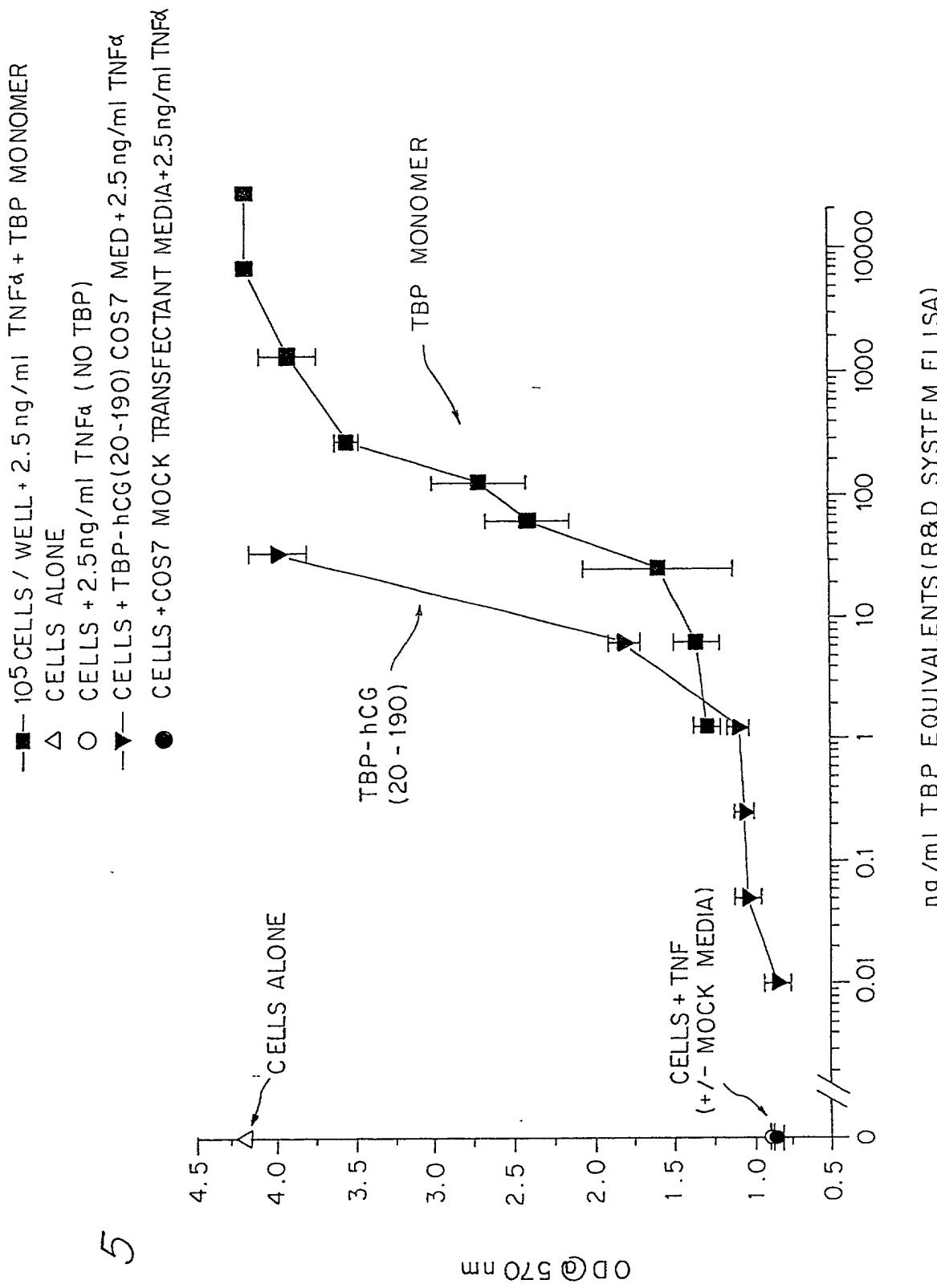


FIGURE 6
OD 570

